

## SANITARY SYSTEMS NEW INSTALLATION/CLOSURE PLAN

# WILDWOOD STATE PARK



## DRAFT INTERAGENCY TRANSMISSION

*Prepared For:*

New York State Office of Parks, Recreation and Historic Preservation  
Long Island Region  
Belmont Lake State Park

*Submitted to:*

EPA Region 2  
Ground Water Compliance Section  
290 Broadway, 20<sup>th</sup> Floor  
New York, NY 10007-1866

*Prepared By:*

Cashin Associates, P.C.  
1200 Veterans Memorial Highway  
Hauppauge, NY 11788

**February 9, 2016**

## TABLE OF CONTENTS

DESCRIPTION OF PARK.....	1
DESCRIPTION OF WORK .....	1
PROCEDURES PURSUANT TO EPA REGION 2 INSTRUCTIONS.....	2

### ATTACHMENTS

Attachment 1 – Work Plan

Attachment 2 – Site Plan Outfall Locations

Attachment 3 – NYSDEC Approval Letter

Attachment 4 – Analytical Report

Attachment 5 – Underground Injection Control Structure Closure Specifications

# **Wildwood State Park New Installation/Closure Plan for Class V Underground Injection Wells**

Location: Wildwood State Park  
790 Hulse Landing Road  
Wading River, NY 11792

Contact Person: Scott Fish, P.E.  
Capital Facilities Regional Manager  
New York State Office of Parks, Recreation and Historic Preservation  
Long Island Region  
Belmont Lake State Park  
P.O. Box 247  
Babylon, NY 11702-0247  
631-321-3533

## **DESCRIPTION OF PARK**

Wildwood State Park (Park) comprises of 600 acres of undeveloped hardwood forest terminating on the high bluff overlooking the Long Island Sound. Trailer and tent sites are available for campers. Swimmers can take advantage of the cool waters of the Sound, and picnickers can relax at shaded picnic tables as their children enjoy the nearby playground. Visitors can fish and use the hiking and cross-country ski trails. Additional facilities include food concessions, comfort and shower facilities, maintenance buildings, and police and administration buildings. The park has over 200,000 visitors annually.

## **DESCRIPTION OF WORK**

Attachment 1 is a spreadsheet showing both the new work and planned injection well closure at Wildwood State Park. The work consists of upgrading large capacity cesspools to code compliant septic systems, upgrading or repairing code compliant septic systems that do not appear to be functioning correctly, upgrading all other cesspool system to septic systems, decommissioning and closure of systems no longer in use. The closure of on-site systems will be performed in accordance with EPA Region 2 Underground Injection Control (UIC) Program Instructions for Class V Remediation/Closure Plans (March 16, 2015).

## **PROCEDURES PURSUANT TO EPA REGION 2**

### **A. Site Schematic**

A site aerial is attached (Attachment 2) showing all buildings on the site and all sanitary outfalls (outfalls 1 through 20). A description of the work planned at each outfall is found in Attachment 1. The plans and specifications associated with the new installation and decommissioning of the well/systems no longer needed were submitted to the New York State, Department of Environmental Conservation (NYSDEC) Region 1 on August 17, 2015 and approved by them on September 22, 2015 (Attachment 3). Construction will begin shortly and be completed in the winter of 2016/2017.

### **B. Description of Business**

Wildwood State Park is located in Suffolk County, New York. The Park is in the Town of Riverhead on the north shore of Long Island. The Park includes a beach on the Long Island Sound, a playground, picnic tables, hiking and biking, fishing, a campground with tent and trailer sites, cross-country skiing, recreational programs and a food concession.

### **C. Description of Fluids Injected**

The on-site systems treat only sanitary human waste. No known drains which could permit chemicals or industrial waste to enter the sanitary waste are connected to these systems. Attachment 4 shows the results of a composite sludge sample taken from outfalls 5,6,7,8 and 15. All results are below the action levels established by the Suffolk County Department of Health Services and included in their Standard Operating Procedure SOP No. 9-95 "Pump-Out and Soil Clean Up Criteria"

### **D. Connection Between Drains and Injection Wells**

The engineering firm of Cashin Associates, P.C. (CA) 1200 Veteran's Memorial Highway, Hauppauge, NY 11788, assisted by a utility mark out company, verified connection of all drains to the subject injection wells. They utilized visual inspection, dye tests and ground penetrating radar to determine drain locations.

### **E. Description of Permanent Closure**

Attachment 5 is a detailed specification for closure of injection wells associated with the on-site sanitary systems.

### **F. Contaminant Removal**

While we do not expect to encounter hazardous waste/soils based on our investigations, if they are encountered all waste/contaminated soils will be removed from in and around the cesspools until visibly clean soil is reached. Removal will be by excavation. Disposal of the waste will

follow the requirements of 6 NYCRR Part 360. Note that Attachment 5, Section 21500 of the specification requires both visual inspection and the use of a PID hand held VOC monitor at each injection well. Liquid wastes will be removed by a Suffolk County licensed hauler and disposed at a licensed scavenger waste facility.

G. On-site Storage of Excavated Material

Onsite storage of material found to be hazardous will be in tarp covered roll off containers until disposal.

H. Waste characterization

We reference section II – A.1 of USEPA Region 2 UIC Program Instructions, “Large capacity cesspools that have received only sanitary waste”. From the Region 2 Instructions, which discuss well specific sampling requirements, “Large Capacity” means serves or designed to serve 20 or more people per day. The cesspools must be pumped out and the wastes must be disposed of properly by a licensed hauler. Excavation, end-point sampling and analysis are typically not required. The waste/fluids that entered the Class V wells previously were untreated sanitary waste containing human excreta. Thus no testing will be conducted, other than visual inspection and use of a hand help VOC monitor.

I. Backfill

Sites will be backfilled with clean inert sand.

J. Final Report

A Final Remediation/ Closure Report will be issued upon completion of the construction project closing the subject class V wells. In addition updated EPA Inventory Forms will be submitted based on as-built drawings of the construction. Construction is expected to be completed in the Winter 2016/2017. The reports will be sent to:

Chief  
Ground Water Compliance Section  
U.S. Environmental Protection Agency  
290 Broadway, 20<sup>th</sup> Floor  
New York, NY 10007-1866

# Attachment 1

## WORK PLAN

SANITARY SYSTEM WORKPLAN - WILDWOOD STATE PARK						
Outfall #	Location	Existing Type of Treatment	Proposed Type of Treatment	SPDES Design Flow Gallons/ Day*	Large Capacity	Comments
1	Park Superintendent Residence	Precast Cesspool	Septic Tank	300	No	Replace Cesspool with septic tank and leaching area
2	Barn House & Maintenance Building	Block Cesspools (2)	Septic Tank	1,440	Yes (1)	Replace Cesspool with septic tank and leaching area
3	Residence (Police Use)	Block Cesspool	Septic Tank	300	No	Replace Cesspool with septic tank and leaching area
4	Park Office / Police Station	Precast Cesspool	Septic Tank	450	No	Replace Cesspool with septic tank and leaching area
5	T-Section Comfort Station & Trailer	Septic Tank - 5,000	Septic Tank	6,300	Yes	Add two septic tanks to match existing. Add approximately 3,000 sf of leaching area.
5A	T-Section Comfort Station (Gray Water)	Precast Cesspool	Septic Tank	N/A	N/A	Replace Cesspool with septic tank and leaching area
6	N + W Trailer Section	Septic Tank - 3,000	Septic Tank	4,950	Yes	No changes recommended.
7	South Trailer Section	Septic Tank - 2,500	Septic Tank	3,000	Yes	No changes recommended.
8	Center and East Trailer Section	Septic Tank - 3,000	Septic Tank	4,200	Yes	No changes recommended.
9	Camp Dump Station #1	Septic Tank	Septic Tank	1,000	No	Replace drain hole cap. No other changes recommended.
10	Camp Dump Station #2	Septic Tank	Septic Tank	600	No	Replace drain hole cap. No other changes recommended.
11	East Camp Comfort Station	Septic Tank - 6,000	Septic Tank	5,580	Yes	Add additional septic tank to existing.
12	East Camp Comfort Station (Gray Water)	Precast Cesspool	Septic Tank	N/A	N/A	Incorporate this outfall into outfall 011. Connect leaching pool to outfall 011 leaching pools.
13	Round House Comfort Station	Septic Tank - 5,100	Septic Tank	5,130	Yes	No Changes recommended.
14	NOT USED	N/A	N/A	N/A	N/A	N/A
15	Parking Field Comfort Station	Septic Tank	Septic Tank	4,860	Yes	Remove existing disposal system. Replace with a new septic system designed for a flow rate of 6700 gpd.
15A	Parking Field Comfort Station (Gray Water)	Block Cesspool	Septic Tank	N/A	N/A	Remove cesspools. Reroute to outfall 015. Incorporate outfall into new disposal system for outfall 015.
15B	Parking Field Concession Stand	Block Cesspool	Septic Tank	N/A	N/A	Remove cesspool. Reroute to outfall 015. Incorporate outfall into new disposal system for outfall 015.
16	Bathhouse	Septic Tanks	Septic Tanks	3,510	Yes	No changes recommended.
17	Hulse Home (Residence)	Cesspool	Septic Tank	300	No	Replace Cesspool with septic tank and leaching area
18	Staff Residence	Septic Tank	Septic Tank	300	No	No changes recommended.
19	Camp Store	Precast Cesspool	Septic Tank	100	No	Replace Cesspool with septic tank and leaching area
20	Pump House	Cesspool	Removed	N/A	N/A	Remove sink and cesspool.
	TOTAL BUDGET COST					

\* Where design flow is found to be less than or equal to 450 gallons per day (gpd), the SPDES flow has been adjusted to 450 gpd which is the flow rating for the minimum sized non-residential septic system according to applicable Standards. This figure may change as design data is developed.

(1) System is anticipated to serve more than 20 persons per day.

# Attachment 2

## SITE PLAN OUTFALL LOCATIONS





SANITARY OUTFALL LOCATIONS		
No.	LONGITUDE	LATITUDE
1	-72.80600985	40.96312241
2	-72.80538632	40.96377953
3	-72.80055506	40.96468375
4	-72.80438597	40.96123417
5	-72.80535129	40.96020661
5A	-72.80573804	40.96059436
6	-72.80444495	40.96004089
7	-72.80509780	40.95970653
8	-72.80570494	40.95930774
9	-72.80369371	40.96219348
10	-72.80398181	40.96181272
11	-72.79822637	40.96167483
12	-72.79823074	40.96143326
13	-72.80090330	40.96138996
14	-72.80070775	40.96131686
15	-72.80302589	40.96325254
15A	-72.80285640	40.96329342
15B	-72.80316728	40.96373014
16	-72.80045550	40.96644117
17	-72.79020252	40.95389161
18	-72.78153389	40.95633990
19	-72.80144710	40.96228220
20	-72.80617597	40.96362453



**Cashin Associates, P.C.**  
ENGINEERING • PLANNING • CONSTRUCTION MANAGEMENT

1200 Veterans Memorial Highway • Haverhill, New York 11708 • 631.348.7660  
60 SW 8th St, Ste 2007 • Miami, Florida 33130 • 305.679.2006

NO.	DATE	DESCRIPTION

NO.	DATE	DESCRIPTION

STATE OF NEW YORK  
OFFICE OF PARKS, RECREATION AND HISTORIC PRESERVATION

WILDWOOD STATE PARK  
SANITARY SYSTEMS INSPECTION

IT IS A VIOLATION OF NEW YORK STATE EDUCATION LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER AN ITEM ON THIS DRAWING IN ANY WAY. IF AN ITEM IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

DATE	OCT. 2013
DESIGNED BY	XX
DRAWN BY	R.J.W
CHECKED BY	T.L.
SCALE	1"= 300'

SITE PLAN  
OUTFALL LOCATION

12035-014  
DRAWING NUMBER  
**1**  
SHEET 1 OF 1



# Attachment 3

NYSDEC APPROVAL LETTER

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water, Region 1  
SUNY at Stony Brook, 50 Circle Road, Stony Brook, NY 11790  
P: (631) 444-0405 | F: (631) 444-0424  
www.dec.ny.gov

September 22, 2015

Mr. Scott Fish, P.E.  
Capital Facilities Regional Manager II  
NYSOPRHP  
Long Island Region-Belmont Lake State Park  
P.O. Box 247  
Babylon, NY 11702-0247

RE: SPDES Permit No. NY0175366  
Wildwood State Park, Case No. CO1-20131009-01 Order on Consent  
Wildwood State Park Sanitary System Improvements

Dear Mr. Fish:

The Department is in receipt of an August 17, 2015 letter from your Consultant, Mr. Stephen Costa of Cashin Associates (CA) along with four copies of a design plan for upgrades for the sewage disposal system at Wildwood State Park. Also included with the letter is a SPDES permit modification application which reflects changes to the outfalls and flow rates as a result of the design process. The Department is also in receipt of two revised documents dated September 21, 2015 in response to the Department's comments dated September 17, 2015. This office has completed our review and hereby approves your design plan. A cover page of the design plan with Department's approval stamp is enclosed for your record. Two copies of the approved drawings will be mailed to CA.

Please note that upon completion of the construction modification and prior to placing the modified system in operation, the Permittee must submit a professional engineer certification to the Department.

If there are any questions regarding this matter, please do not hesitate to contact me at (631) 444-0426.

Sincerely,



Joe Sun, Ph.D., P.E.

cc: T. Leung, P.E., M.B.A., Regional Water Engineer  
S. Costa, P.E., Cashin Associates  
J. DiMura, P.E., DEC-Albany  
C. Haas, P.E., DEC-R1  
M. Fish-Gertz, DEC-Albany



Department of  
Environmental  
Conservation

Attachment 4  
Analytical Report

### Summary Chart - Detections and comparison to action levels\*

Sample Results: ST-1 Composite Sample from outfalls #5, #6, #7, #8 & #15

Sample	Results ug/Kg	SCDHS ug/Kg Action Levels
1,2,4-Trimethylbenzene	66.5	7,200
4-Isopropyltoluene	255	22,000
1,4-Dichlorobenzene	80.1	3,600
1,3,5-Trimethylbenzene	27.6	16,800
Toluene	796	3,000
P-Ethyltoluene	32.9	9,000

Sample	Results mg/Kg	SCDHS mg/Kg Action Levels
Mercury	3.53	3.7

\* Suffolk County Action Levels Reported in Standard Operating Procedure for the Administration of Article 12 of the Suffolk County Sanitary Code - Article 12 - SOP No. 9-95

# Environmental Quality Services, Inc.

208 Route 109 Suite 101, Farmingdale NY 11735  
Phone - 631-249-1456 Fax - 631-249-8344

8/30/2013

## **ANALYTICAL REPORT**

**Laboratory Identifier: 1308310**

Received: 8/29/2013 16:45

Sampled by: Marc Califano

**Client: Cashin Associates, PC**

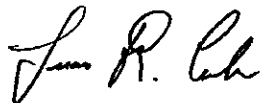
1200 Veterans Memorial Hwy  
Hauppauge,  
NY 11788

**Project: Wildwood Park 12035.04**

Wildwood Park  
Wading Park,  
NY  
Area: 12035.04

**Manager: Marc Califano**

Respectfully submitted,



---

Juan R. Cuba - Technical Director

NYS Lab ID # 10969

NJ Lab ID # PH0645

CT Lab ID # PH0645

The information contained in this report is confidential and intended only for the use of the client listed above. This report shall not be reproduced, except in full, without the written consent of Environmental Quality Services, Inc. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY.

# Environmental Quality Services, Inc.

208 Route 109 Suite 101, Farmingdale NY 11735

Phone - 631-249-1456 Fax - 631-249-8344

8/30/2013

## Volatiles - EPA 8260B

### Sample: 1308310-1

Client Sample ID: ST-1

Matrix: Sludge

Remarks: See Case Narrative

Analyzed Date: 8/30/201

Prepared by Method: 5035A

Type: Composite

Collected: 8/29/2013 15:00

% Solid: 15.5%

## Analytical Results

Cas No	Analyte	DF	MDL	Result*	Units	Q
67-64-1	Acetone	1	43.5	ND	ug/Kg	U
56-23-5	Carbon Tetrachloride	1	11.7	ND	ug/Kg	U
67-66-3	Chloroform	1	13.0	ND	ug/Kg	U
71-43-2	Benzene	1	12.1	ND	ug/Kg	U
71-55-6	1,1,1-Trichloroethane	1	11.7	ND	ug/Kg	U
74-83-9	Bromomethane	1	13.0	ND	ug/Kg	U
74-87-3	Chloromethane	1	9.61	ND	ug/Kg	U
74-95-3	Dibromomethane	1	10.3	ND	ug/Kg	U
74-97-5	Bromochloromethane	1	12.8	ND	ug/Kg	U
75-00-3	Chloroethane	1	12.9	ND	ug/Kg	U
75-01-4	Vinyl Chloride	1	14.2	ND	ug/Kg	U
75-09-2	Methylene Chloride	1	12.1	ND	ug/Kg	U
75-15-0	Carbon disulfide	1	8.45	ND	ug/Kg	U
75-25-2	Bromoform	1	5.87	ND	ug/Kg	U
75-27-4	Bromodichloromethane	1	8.00	ND	ug/Kg	U
75-34-3	1,1-Dichloroethane	1	10.3	ND	ug/Kg	U
75-35-4	1,1-Dichloroethene	1	12.2	ND	ug/Kg	U
75-65-0	Tertiary butyl alcohol	1	97.4	ND	ug/Kg	U
75-69-4	Trichlorofluoromethane	1	12.3	ND	ug/Kg	U
75-71-8	Dichlorodifluoromethane	1	6.71	ND	ug/Kg	U
76-13-1	1,1,2-Trichlorotrifluoroethane	1	11.1	ND	ug/Kg	U
78-87-5	1,2-Dichloropropane	1	13.0	ND	ug/Kg	U
78-93-3	2-Butanone	1	23.4	ND	ug/Kg	U
79-00-5	1,1,2-Trichloroethane	1	12.3	ND	ug/Kg	U
79-01-6	Trichloroethene	1	11.2	ND	ug/Kg	U
79-34-5	1,1,2,2-Tetrachloroethane	1	12.8	ND	ug/Kg	U
87-61-6	1,2,3-Trichlorobenzene	1	11.4	ND	ug/Kg	U
87-68-3	Hexachlorobutadiene	1	11.6	ND	ug/Kg	U
91-20-3	Naphthalene	1	8.97	ND	ug/Kg	U
95-47-6	o-xylene	1	14.1	ND	ug/Kg	U
95-49-8	2-Chlorotoluene	1	14.9	ND	ug/Kg	U
95-50-1	1,2-Dichlorobenzene	1	13.4	ND	ug/Kg	U

# Environmental Quality Services, Inc.

208 Route 109 Suite 101, Farmingdale NY 11735

Phone - 631-249-1456 Fax - 631-249-8344

8/30/2013

## Volatiles - EPA 8260B

### Sample: 1308310-1

Client Sample ID: ST-1

Matrix: Sludge

Remarks: See Case Narrative

Analyzed Date: 8/30/201

Prepared by Method: 5035A

Type: Composite

Collected: 8/29/2013 15:00

% Solid: 15.5%

## Analytical Results

Cas No	Analyte	DF	MDL	Result*	Units	Q
95-63-6	1,2,4-Trimethylbenzene	1	14.1	66.5	ug/Kg	
95-93-2	1,2,4,5-Tetramethylbenzene	1	10.2	ND	ug/Kg	U
96-12-8	1,2-Dibromo-3-chloropropane	1	6.51	ND	ug/Kg	U
96-18-4	1,2,3-Trichloropropane	1	11.6	ND	ug/Kg	U
98-06-6	tert-Butylbenzene	1	13.4	ND	ug/Kg	U
98-82-8	Isopropylbenzene	1	13.7	ND	ug/Kg	U
99-87-6	4-Isopropyltoluene	1	13.9	255	ug/Kg	
100-41-4	Ethylbenzene	1	11.4	ND	ug/Kg	U
100-42-5	Styrene	1	11.7	ND	ug/Kg	U
103-65-1	n-Propylbenzene	1	12.6	ND	ug/Kg	U
104-51-8	n-Butylbenzene	1	13.9	ND	ug/Kg	U
105-05-5	p-Diethylbenzene	1	12.8	ND	ug/Kg	U
106-43-4	4-Chlorotoluene	1	13.4	ND	ug/Kg	U
106-46-7	1,4-Dichlorobenzene	1	13.7	80.1	ug/Kg	
106-93-4	1,2-Dibromoethane	1	12.1	ND	ug/Kg	U
107-06-2	1,2-Dichloroethane	1	13.0	ND	ug/Kg	U
107-13-1	Acrylonitrile	1	25.1	ND	ug/Kg	U
108-10-1	4-Methyl-2-pentanone	1	31.3	ND	ug/Kg	U
108-38-3	m,p-xylene	1	27.0	ND	ug/Kg	U
108-67-8	1,3,5-Trimethylbenzene	1	13.9	27.6	ug/Kg	
108-86-1	Bromobenzene	1	14.0	ND	ug/Kg	U
108-88-3	Toluene	1	12.3	796	ug/Kg	
108-90-7	Chlorobenzene	1	13.8	ND	ug/Kg	U
110-75-8	2-Chloroethylvinylether	1	18.6	ND	ug/Kg	U
120-82-1	1,2,4-Trichlorobenzene	1	12.0	ND	ug/Kg	U
124-48-1	Dibromochloromethane	1	7.68	ND	ug/Kg	U
127-18-4	Tetrachloroethene	1	13.8	ND	ug/Kg	U
135-98-8	sec-Butylbenzene	1	14.1	ND	ug/Kg	U
142-28-9	1,3-Dichloropropane	1	14.1	ND	ug/Kg	U
156-59-2	c-1,2-Dichloroethene	1	11.9	ND	ug/Kg	U
156-60-5	t-1,2-Dichloroethene	1	11.7	ND	ug/Kg	U
541-73-1	1,3-Dichlorobenzene	1	13.1	ND	ug/Kg	U



# Environmental Quality Services, Inc.

208 Route 109 Suite 101, Farmingdale NY 11735  
Phone - 631-249-1456 Fax - 631-249-8344

8/30/2013

## Volatiles - EPA 8260B

### Sample: 1308310-1

Client Sample ID: ST-1

Matrix: Sludge

Remarks: See Case Narrative

Analyzed Date: 8/30/201

Prepared by Method: 5035A

Type: Composite

Collected: 8/29/2013 15:00

% Solid: 15.5%

## Analytical Results

Cas No	Analyte	DF	MDL	Result*	Units	Q
563-58-6	1,1-Dichloropropene	1	11.3	ND	ug/Kg	U
590-20-7	2,2-Dichloropropane	1	11.2	ND	ug/Kg	U
591-78-6	2-Hexanone	1	20.7	ND	ug/Kg	U
622-96-8	p-Ethyltoluene	1	13.8	32.9	ug/Kg	
630-20-6	1,1,1,2-Tetrachloroethane	1	12.0	ND	ug/Kg	U
994-05-8	TAME	1	11.4	ND	ug/Kg	U
1634-04-4	Methyl t-butyl ether	1	11.1	ND	ug/Kg	U
10061-01-5	c-1,3-Dichloropropene	1	12.5	ND	ug/Kg	U
10061-02-6	t-1,3-Dichloropropene	1	9.35	ND	ug/Kg	U

\* Results are reported on a dry weight basis

## Surrogate Results

Cas No	Analyte	DF	% Recovery	QC Limits	Q
17060-07-0	1,2-DICHLOROETHANE-D4	1	95.8 %	( 79 - 132)	
460-00-4	4-BROMOFLUOROBENZENE	1	91.4 %	( 70 - 115)	
4774-33-8	DIBROMOFLUOROMETHANE	1	102.0 %	( 77 - 127)	
2037-26-5	TOLUENE-D8	1	93.8 %	( 87 - 109)	

# Environmental Quality Services, Inc.

208 Route 109 Suite 101, Farmingdale NY 11735  
Phone - 631-249-1456 Fax - 631-249-8344

8/30/2013

## Semivolatile PAH Compounds - EPA Method 8270C/625

### Sample: 1308310-1

Client Sample ID: ST-1

Matrix: Sludge

Remarks: See Case Narrative

Analyzed Date: 8/30/201

Preparation Date(s) : 8/30/2013 by Method: 3550B

Type: Composite

Collected: 8/29/2013 15:00

% Solid: 15.5%

## Analytical Results

Cas No	Analyte	DF	MDL	Result*	Units	Q
83-32-9	Acenaphthene	1	166	ND	ug/Kg	U
208-96-8	Acenaphthylene	1	188	ND	ug/Kg	U
120-12-7	Anthracene	1	230	ND	ug/Kg	U
56-55-3	Benzo(a)Anthracene	1	306	ND	ug/Kg	U
50-32-8	Benzo(a)Pyrene	1	292	ND	ug/Kg	U
205-99-2	Benzo(b)Fluoranthene	1	282	ND	ug/Kg	U
191-24-2	Benzo(g,h,i)Perylene	1	207	ND	ug/Kg	U
207-08-9	Benzo(k)Fluoranthene	1	435	ND	ug/Kg	U
218-01-9	Chrysene	1	288	ND	ug/Kg	U
53-70-3	Dibenzo(a,h)Anthracene	1	237	ND	ug/Kg	U
206-44-0	Fluoranthene	1	292	ND	ug/Kg	U
86-73-7	Fluorene	1	190	ND	ug/Kg	U
193-39-5	Indeno(1,2,3-cd)pyrene	1	228	ND	ug/Kg	U
91-20-3	Naphthalene	1	274	ND	ug/Kg	U
85-01-8	Phenanthrene	1	269	ND	ug/Kg	U
129-00-0	Pyrene	1	268	ND	ug/Kg	U
91-57-6	2-Methylnaphthalene	1	201	ND	ug/Kg	U

\* Results are reported on a dry weight basis

## Surrogate Results

Cas No	Analyte	DF	% Recovery	QC Limits	Q
321-60-8	2-FLUOROBIPHENYL	1	41.9 %	( 30 - 115)	
4165-60-0	NITROBENZENE-D5	1	48.2 %	( 23 - 120)	
1718-51-0	TERPHENYL-D14	1	62.4 %	( 18 - 137)	

# Environmental Quality Services, Inc.

208 Route 109 Suite 101, Farmingdale NY 11735  
Phone - 631-249-1456 Fax - 631-249-8344

8/30/2013

## Mercury by SW846 7470/7471/EPA 245.1

**Sample: 1308310-1**

Client Sample ID: ST-1

Matrix: Sludge

Remarks:

Analyzed Date: 8/30/201

Preparation Date(s) : 8/30/2013

Type: Composite

Collected: 8/29/2013 15:00

% Solid: 15.5%

### Analytical Results

Cas No	Analyte	DF	MDL	Result*	Units	Q
7439-97-6	Mercury	1	0.064	3.53	mg/Kg	

\* Results are reported on a dry weight basis

# Environmental Quality Services, Inc.

208 Route 109 Suite 101, Farmingdale NY 11735  
Phone - 631-249-1456 Fax - 631-249-8344

8/30/2013

## SCDOH - Metals by Method SW846 6010

### Sample: 1308310-1

Client Sample ID: ST-1

Matrix: Sludge

Remarks:

Analyzed Date: 8/30/201

Preparation Date(s) : 8/30/2013

Type: Composite

Collected: 8/29/2013 15:00

% Solid: 15.5%

## Analytical Results

Cas No	Analyte	DF	MDL	Result*	Units	Q
7440-38-2	Arsenic	1	2.32	ND	mg/Kg	U
7440-39-3	Barium	1	0.61	ND	mg/Kg	U
7440-41-7	Beryllium	1	0.61	ND	mg/Kg	U
7440-43-9	Cadmium	1	0.24	ND	mg/Kg	U
7440-47-3	Chromium	1	0.73	ND	mg/Kg	U
7440-50-8	Copper	1	2.05	ND	mg/Kg	U
7439-92-1	Lead	1	1.41	ND	mg/Kg	U
7440-02-0	Nickel	1	0.87	ND	mg/Kg	U
7440-22-4	Silver	1	0.40	ND	mg/Kg	U

\* Results are reported on a dry weight basis

# Environmental Quality Services, Inc.

208 Route 109 Suite 101, Farmingdale NY 11735  
Phone - 631-249-1456 Fax - 631-249-8344

8/30/2013

## Selenium by Method SW846 6010B

**Sample: 1308310-1**

Client Sample ID: ST-1

Matrix: Sludge

Remarks:

Analyzed Date: 8/30/201

Preparation Date(s) : 8/30/2013 by Method: 3050B

Type: Composite

Collected: 8/29/2013 15:00

% Solid: 15.5%

## Analytical Results

Cas No	Analyte	DF	MDL	Result*	Units	Q
7782-49-2	Selenium	1	3.92	ND	mg/Kg	U

\* Results are reported on a dry weight basis

# Environmental Quality Services, Inc.

208 Route 109 Suite 101, Farmingdale NY 11735

Phone - 631-249-1456 Fax - 631-249-8344

8/30/2013

## Case Narrative

EPA 8270 Semi-Volatiles

### Initial Calibration:

The following compounds exhibited a % RSD of >20 % in the initial calibration and continuing calibration with coefficient values <0.99

Benzoic Acid (0.70)

N-nitrosodiphenylamine (0.98)

Pentachlorophenol (0.98)

Benzidine (0.65)

sample had Internal standards outside QC range due to sample matrix interference.

# Environmental Quality Services, Inc.

208 Route 109 Suite 101, Farmingdale NY 11735  
Phone - 631-249-1456 Fax - 631-249-8344

8/30/2013

## Case Narrative

### EPA 8260 VOLATILE SOLID ANALYSIS:

The following compounds were calibrated at 10, 40, 100, 200 and 360 ppb levels in the initial calibration curve:

- Acetone
- 2-Butanone
- 4-Methyl-2-pentanone
- 2-Hexanone

M&P-Xylenes and 2-Chloroethylvinylether were calibrated at 10, 40, 100, 200 and 360 ppb levels.

Acrolein/Acrylonitrile were calibrated at 20,80,200,400 and 640 ppb levels.

Tert Butyl Alcohol (TBA) and Tert amyl alcohol (TAA) was calibrated at 50,200,500,1000 and 1600 ppb levels.

1,4-Dioxane was calibrated at 100,400, 1000, 2000,and 3200 ppb levels.

All other compounds were calibrated at 2.5, 20, 50, 100 and 160 ppb levels.

The following compounds exhibited a % RSD of >15 % in the initial calibration and continuing calibration with coefficient values <0.99

- Bromomethane (0.98)
- Chloroethane (0.97)
- Ethanol (0.98)
- m&p-xylene (0.98)

Method 8260 low level:

The laboratory is responsible only for the certified testing and is not directly responsible for the integrity of the sample before laboratory receipt

# Environmental Quality Services, Inc.

208 Route 109 Suite 101, Farmingdale NY 11735  
Phone - 631-249-1456 Fax - 631-249-8344

8/30/2013

## ORGANIC METHOD QUALIFIERS

Q - Qualifier - specified entries and their meanings are as follows:

- U - The analytical result is not detected above the Method Detection Limit (MDL).  
All MDL's are lower than the lowest calibration standard concentration.
- J - Indicates an estimated value. The concentration reported was between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL).
- B - The analyte was found in the associated method blank as well as the sample.  
It indicates possible/probable blank contamination and warns the data user to take appropriate action.
- E - The concentration of the analyte exceeded the calibration range of the instrument.
- D - This flag indicates a system monitoring compound diluted out.

## INORGANIC METHOD QUALIFIERS

C - (Concentration) qualifiers are as follows:

- B - Entered if the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Method Detection Limit (MDL).
- U - Entered when the analyte was analyzed for, but not detected above the Method Detection Limit (MDL) which is less than the lowest calibration standard concentration.

Q - Qualifier specific entries and their meanings are as follows:

- E - Reported value is estimated because of the presence of interferences.

M - (Method) qualifiers are as follows:

- AS - Semi-automated Spectrophotometric
- AV - Automated Cold Vapor AA
- C - Manual Spectrophotometric
- P - ICP
- T - Titrimetric

## OTHER QUALIFIERS

ND - Not Detected









# Attachment 5

UNDERGROUND INJECTION CONTROL  
STRUCTURE CLOSURE SPECIFICATIONS

**SECTION 021500**  
**UNDERGROUND INJECTION CONTROL STRUCTURE CLOSURE**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

**A. Scope of Work:**

1. The Contractor shall furnish all labor, materials, supplies, equipment, power, facilities and incidentals necessary to properly close existing underground injection control (UIC) structures located throughout the site, as shown on the Drawings. Work includes, but is not limited to, removal and disposal of standing liquids within the structures, removal of sludge and soil from the bottom of the structures, collection and analysis of endpoint sample(s) from the bottom of the structures, and backfilling and sealing the structures.
2. Closure of the Underground Injection Control (UIC) structures must be conducted in accordance with all applicable federal, state and local regulations. Specifically, closure must be conducted in accordance with the Suffolk County Department of Health's (SCDHS's) "Standard Operating Procedure for the Administration of Article 12 of the Suffolk County Sanitary Code" with sampling only where directed by the Engineer, or as indicated on the drawings, and the approved UIC Closure Plan, as provided by the Owner.
3. The work shall include removal of all materials regardless of type, character, composition, weight, size or condition.
4. All waste generated during completion of the Work shall be managed in accordance with Section 021300, Waste Transportation and Disposal, and all applicable federal, state and local regulations.
5. The Work shall include all temporary means to manage and control storm water discharge, and prevent siltation and sedimentation of existing storm water management systems during the performance of the Work.
6. The Contractor shall examine the areas and conditions under which Work shall be performed. The Contractor shall correct all conditions detrimental to proper and timely completion of the Work and shall not proceed until unsatisfactory conditions have been corrected. The Contractor shall immediately notify the Owner of any perceived differences in existing conditions which may impact the Work.
7. At all times during closure activities, the Contractor shall provide equipment and facilities to remove all generated wash water. The Contractor shall be responsible for excavating and backfilling, in accordance with these Specifications, any soil contaminated due to improper containment of wash water at no additional expense to the Owner.



8. Contractor shall have a PID hand held VOC Monitor, Mini RAE Lite Model PGM-7300 or equivalent, on site to monitor all open excavations before backfilling.

B. Related Work Specified Elsewhere.

1. Section 026100, “Storage, Handling, Transportation And Disposal Of Petroleum-Contaminated Material And/Or Hazardous Wastes”

## **1.2 SUBMITTALS**

A. UIC Closure Procedures:

1. Contractor shall submit closure procedures to the Engineer for approval. The procedures shall specify all procedures, equipment, materials and manpower which will be utilized to close each respective UIC structure.

## **1.3 PERMITS AND REGULATIONS**

- A. The Contractor shall prepare all required submittals and obtain all necessary permits and approvals and pay all fees for the Work as required by federal, state and local agencies, including the New York State Department of Environmental Conservation (NYSDEC), Suffolk County, and the United States Environmental Protection Agency (USEPA) as applicable.
- B. The Contractor shall perform all Work in strict compliance with all applicable requirements of governing authorities having jurisdiction, including NYSDEC, Suffolk County, and the USEPA as applicable.
- C. The Contractor is advised that all excavation work shall be in strict compliance with Occupational Safety and Health Administration (OSHA), Title 29, Code of Federal Regulations 1926, Subpart P: Excavation and Industrial Code Rule 23 as established by the New York State Department of Labor.

## **1.4 MANAGEMENT OF LIQUID WASTE**

- A. The Contractor shall be responsible for collecting, managing and disposing of all water and liquid waste present within the UIC structure at the beginning of construction, and any water and liquid waste entering the UIC structure as a result of construction activities. This includes, but is not limited to, water resulting from maintaining excavations, cleaning the UIC structures and any storm water.
- B. At all times during construction, the Contractor shall provide equipment and facilities to remove all water entering excavations from any sources. All excavations shall be kept dry so as not to impede construction or result in damage or loss of integrity of any complete Work.

- C. The Contractor shall provide and maintain pumps, sumps, suction and discharge lines, dikes, berms or other controls as necessary to convey liquids away from the excavations. Control devices shall not be removed until disturbed areas are restored or as approved by the Engineer or the Owner.

## **PART 2 - PRODUCTS - (NOT USED)**

## **PART 3 - EXECUTION**

- A. The Contractor shall notify the Engineer, NYSDEC, and the USEPA at least 5 days prior to any field work related to UIC structure closure.
- B. The Contractor shall give special attention to the buildings and structures that are in close proximity of the Work and shall implement all necessary measures to prevent damage to property. Damage to buildings or structures, not scheduled for demolition shall be repaired at the Contractor's expense.
- C. The Contractor shall completely secure any open UIC structures and excavation at the conclusion of the Work or at the end of the day, whichever is sooner. The cover shall be weather-tight and prevent infiltration of storm water and drainage water, and prevent the release of vapors and odors. The cover shall be positioned to shed precipitation, storm water runoff and drainage water. Open UIC structures and excavations shall be barricaded with safety fencing, signs and other means as required by federal, state and local laws and regulations.
- D. The Contractor shall prevent the release of vapors, odor and dust originating during excavation of the UIC structures, removal of liquid, sediment and soil from the UIC structures, loading materials and any other operations required by this Contract.

### **3.1 DRY WELL/CESSPOOL CLOSURE**

- A. The Contractor shall remove the cover, frame, stack, dome, debris, and soil in the vicinity of the dry well/cesspool to completely expose the top of the dry well/cesspool.
- B. The Contractor shall remove the dome, top slab and/or "stack" of the dry well/cesspool, including the manhole rims and covers, if present, to provide an open excavation which extends from ground surface to the bottom of the dry well/cesspool.
- C. All liquids and sludge shall be removed from the dry well/cesspool to the existing sediment surface and placed immediately into approved liquid waste hauling vehicles for off-site disposal.
- D. Where directed by the Engineer, the interior walls of the dry well/cesspool shall be power washed by the Contractor. The Contractor shall collect, characterize, remove and dispose of all soil, sludge, sediment, debris, wastewater, wash water and residuals from with the dry well/cesspool. In power washing the dry well, the

Contractor shall minimize the generation of wastewater and maximize the capture of the wash water.

- E. Where directed by the Engineer, excavation of the soil beneath the dry well/cesspool shall be accomplished as specified by Section 310000, Earthwork, to the horizontal extent of the inside of the rings of the dry well/cesspool and as approved by the Engineer.
- F. Excavation of any visually stained soil or soil exhibiting elevated PID readings shall be accomplished as specified in Section 310000, Earthwork, as directed by the Engineer. All contaminated soil excavated shall be disposed off-site in accordance with Section 021300, Waste Transportation and Disposal.
- G. The Contractor shall be responsible for all structural support, bracing, shoring, backfilling etc., necessary to prevent damage, to nearby structures scheduled to remain.
- H. The contractor shall either remove the dry well/cesspool structure or abandon it in place as directed on the drawings.
- I. Where directed by the Engineer, an endpoint sample shall be collected from the bottom of the excavation, as specified by Section 016520, Sampling Plan. No backfilling shall take place until approval of the endpoint sampling results by the Owner and, as applicable, the USEPA and NYSDEC. There shall be no claims for changes in Contract Time or Contract Price as a result of the Owner's, Engineer's, USEPA's or NYSDEC's review of endpoint sample results. Should the Contractor backfill the excavation prior to the approval of the endpoint sample results to maintain the integrity of the excavation, such work is at the Contractor's risk. Should additional excavation be required, all such backfill shall be removed and handled, as directed by the Engineer, at no additional cost to the Owner.
- J. Once the Contractor has obtained approval of the endpoint sample results, the dry well/cesspool excavation shall be backfilled. Backfill and compaction shall be completed in accordance with the requirement specified in Section 310000, Earthwork.

### **3.2 MANHOLE CLOSURE**

- A. The Contractor shall remove the cover, frame, stack, dome, debris, and soil in the vicinity of the manhole to completely expose the top of the manhole.
- B. The Contractor shall remove the dome, top slab and/or "stack" of the manhole, including the manhole rims and covers, if present, to provide an open excavation which extends from ground surface to the bottom of the manhole.
- C. All liquids and sludge shall be removed from the manhole and placed immediately into approved liquid waste hauling vehicles for off-site disposal.
- D. For Manholes to be removed, the Contractor shall excavate and completely remove the manhole and associated drainage piping within 3 feet of the structure. Excavation of any visually stained soil or soil exhibiting elevated PID readings shall be accomplished as specified in Section 310000, Earthwork, as directed by the



Engineer. All contaminated soil excavated shall be disposed off-site in accordance with Section 021300, Waste Transportation and Disposal.

- E. The Contractor shall be responsible for all structural support, bracing, shoring, backfilling etc., necessary to prevent damage, to nearby structures scheduled to remain.
- F. Where directed by the Engineer, an endpoint sample shall be collected from the bottom of the excavation, as specified by Section 016520, Sampling Plan. No backfilling shall take place until approval of the endpoint sampling results by the Owner and, as applicable, the USEPA and NYSDEC. There shall be no claims for changes in Contract Time or Contract Price as a result of the Owner's, Engineer's, USEPA's or NYSDEC's review of endpoint sample results. Should the Contractor backfill the excavation prior to the approval of the endpoint sample results to maintain the integrity of the excavation, such work is at the Contractor's risk. Should additional excavation be required, all such backfill shall be removed and handled, as directed by the Engineer, at no additional cost to the Owner.
- G. Once the Contractor has obtained approval of the endpoint sample results, the excavation shall be backfilled unless the structure is to be replaced at the same location. Backfill and compaction shall be completed in accordance with the requirements specified in Section 310000, Earthwork.
- H. For manholes to be abandoned in place, the Contractor shall seal with grout all sewer lines entering or exiting the manhole and shall fracture the bottom of the manhole to expose the soil below. The remaining structure shall be backfilled. Backfill and compaction shall be completed in accordance with the requirements specified in Section 310000, Earthwork.

### **3.3 SEPTIC SYSTEM CLOSURE**

- A. The Contractor shall remove the debris, and soil in the vicinity of the septic system to completely expose the septic tank and associated discharge piping.
- B. The Contractor shall remove the dome, top slab and/or "stack" of the septic tank, including the manhole rims and covers, if present, to provide an open excavation which extends from ground surface to the bottom of the septic tank.
- C. All liquids and sludge shall be removed from the septic tank and placed immediately into approved liquid waste hauling vehicles for off-site disposal.
- D. Where removal is indicated on the drawings or as directed by the Engineer, the Contractor shall excavate and completely remove the septic tank and associated drainage piping. Excavation of any visually stained soil or soil exhibiting elevated PID readings shall be accomplished as specified in Section 31000, Earthwork, as directed by the Engineer. All contaminated soil excavated shall be disposed off-site in accordance with Section 021300, Waste Transportation and Disposal.
- E. The Contractor shall be responsible for all structural support, bracing, shoring, backfilling etc., necessary to prevent damage, to nearby structures scheduled to remain.

- F. The septic tank(s) shall be removed and/or abandoned in place as indicated on the drawings. Where the drawings indicate the tank is to be abandoned in place the bottom slab of the septic tank(s) shall be completely broken-up to allow proper drainage. The septic tank(s) shall be backfilled and compacted in accordance with the requirements specified in Section 310000, Earthwork.
- G. Where directed by the Engineer, an endpoint sample shall be collected from the bottom of the excavation, as specified by Section 016520, Sampling Plan. No backfilling shall take place until approval of the endpoint sampling results by the Owner and, as applicable, the USEPA and NYSDEC. There shall be no claims for changes in Contract Time or Contract Price as a result of the Owner's, Engineer's, USEPA's or NYSDEC's review of endpoint sample results. Should the Contractor backfill the excavation prior to the approval of the endpoint sample results to maintain the integrity of the excavation, such work is at the Contractor's risk. Should additional excavation be required, all such backfill shall be removed and handled, as directed by the Engineer, at no additional cost to the Owner.
- H. Once the Contractor has obtained approval of the endpoint sample results, the excavation shall be backfilled unless the structure is to be replaced at the same location. Backfill and compaction shall be completed in accordance with the requirements specified in Section 310000, Earthwork.

#### **3.4 FLOOR DRAIN / TRENCH DRAIN CLOSURE**

- A. The Contractor shall remove all debris and soil in the vicinity of the floor drain to completely expose the extent of the drain.
- B. The Contractor shall remove all floor/trench drain covers.
- C. The Contractor shall prepare floor/trench drain surfaces as required to receive concrete fill.
- D. The Contractor shall fill floor/trench drains with concrete flush with the existing floor. Before filling trench drains any outlet piping shall be capped. Concrete shall be in accordance with Section 033010, "Cast-In-Place Concrete", and Section 036100, "Grouting and Patching."

#### **END OF SECTION**